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Confinement Effects on the Phase Separation of Polymer Dispersed Liquid Crystals JIANFENG XIA, JUN WANG, ZHIQUN LIN, Department of Materials Science and Engineering, Iowa State University, Ames, IA 50011600, FENG QIU, YULIANG YANG, Department of Macromolecular Science, Fudan University, Shanghai 200433, China — The phase separation kinetics of polymer dispersed liquid crystals (PDLC) confined between two parallel, smooth walls are numerically studied for the first time. The time evolution of two order parameters (i.e., composition order parameter, ϕ and orientational order parameter, Q) are calculated by solving coupled time-dependent Ginzburg–Landau (TDGL) model C equations. The external confinement is found to accelerate the ordering of LC. The results presented in the study may provide insights into the experiments on the control of LC domain morphology under nanoscopic confinement.

Jianfeng Xia

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